Beneficial effects of vitamin E isomer supplementation on static and dynamic bone histomorphometry parameters in normal male rats. M. Z. Mehat, A. N. Shuid, N. Mohamed, N. Muhammad, I. N. Soelaiman, *J. Bone Miner. Metab.*, **28**, 503–509 (2010).

Bone is a specialized connective tissue that functions as the load-bearing structure of the body. Free radicals may affect bone remodeling by regulating osteoclast activity in either the physiological or pathological condition. Vitamin E, a lipid-soluble antioxidant, has been demonstrated to offer protection against osteoporosis and to improve the bone material and structure of animal models. The aim of this study was to observe and compare the effects of alpha-tocopherol (α-tocopherol), delta-tocotrienol (δ-tocotrienol), and gamma-tocotrienol (γ-tocotrienol) on the static and dynamic bone histomorphometric parameters in normal male rats. Thirty-two normal Sprague–Dawley male rats aged 3 months and weighing 200–250 g were randomly divided into four groups. The control group was supplemented with oral gavages of olive oil (vehicle), whereas the α-tocopherol, δ-tocotrienol, and γ-tocotrienol groups were given oral gavages of 60 mg/kg α-tocopherol, δ-tocotrienol, and γ-tocotrienol, respectively. The rats were injected twice with calcein to fluorochrome-label the bones. After 4 months of treatment, the rats were killed, and the left femurs were dissected out and prepared for bone histomorphometry. Both the static and dynamic parameters of the vitamin E-treated groups were better than those of the normal control group.